



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. 09/746,438 Group Art Unit: 2155
Applicant(s): Thomasson, et al. Examiner: Tran, Philip B.
Filing Date: December 20, 2000 Docket No. 90897-010200
Title: METHOD AND SYSTEM FOR Customer No. 33717
ASYMMETRIC SATELLITE
COMMUNICATIONS FOR LOCAL AREA
NETWORKS

CERTIFICATE OF MAILING UNDER 37 CFR 1.8

Date of Mailing: May , 2006

I hereby certify that this correspondence and identified enclosures are being deposited with the United States Postal Service, first class mail, postage prepaid, under 37 CFR 1.8 on the date indicated, and addressed to Commissioner for Patents, Post Office Box 1450, Alexandria, Virginia 22313-1450.


Name: Angela Williams

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**DECLARATION OF PRIOR INVENTION
PURSUANT TO 37 C.F.R. § 1.131**

Dear Sir:

We, John K. Thomasson of Sandy, Utah, a citizen of the United States, and Myron L. Mosbarger of Orem, Utah, a citizen of the United States, declare that:

1. We made and conceived the invention described and claimed in U.S. Patent Application Serial No. 09/746,438 filed on December 20, 2000, and having claimed priority to U.S. Patent Application Serial No. 08/943,544 filed on October 3, 1997, now U.S. Patent No. 6,205,473, entitled "METHOD AND SYSTEM FOR ASYMMETRIC SATELLITE COMMUNICATIONS FOR LOCAL AREA NETWORKS."

2. We are fully familiar with the '438 application, the Office Action mailed on December 15, 2005 and the cited prior art to Maegawa (U.S. Patent Application Publication No. 2004/0076123 A1).

3. We submit this Declaration to establish a date of invention defined in the claims of the application prior to March 4, 1997.

4. All of the documents provided as exhibits to this declaration were created in the United States and/or memorialize events that took place in the United States.

5. Attached hereto as Exhibit 1 are selected portions from a document that we prepared prior to March 4, 1997 and that bears a date prior to March 4, 1997 entitled, "Satellite-based Internet Access and Data Delivery to Local Area Networks: DirecPC Network Edition."

6. Exhibit 1 shows and describes a server based application that provides an Internet gateway for multiple client computers on a Local Area Network (LAN), where information from an ISP is beamed up to a satellite and sent back down to a satellite dish and then into a server. The server then routes the downloaded data out over the LAN to the client computers connected to the LAN.

7. Figure 1 from Exhibit 1 illustrates the major components of the communication system and is the same figure that appears as Figure 1 of the '438 application.

8. Attached hereto as Exhibit 2 are selected portions from a document that we, together with others, prepared prior to March 4, 1997 and that bears a date prior to March 4, 1997 entitled, "DirecPC™ for NetWare® Installation Guide, Netware Server Windows Client, Version 1.10."

9. Exhibit 2 shows and describes a way of providing high speed Internet access and data transfer to multiple users across a LAN using satellite transmissions to download data through a satellite dish connected to a DirecPC™ for NetWare® (DPCN)-enabled server. The DPCN server makes it possible for any number of users to receive Internet and package data deliveries at their client computers on the LAN using a single satellite dish connected to the DPCN server.

10. Exhibit 2 shows and describes that DPCN software includes the following software modules: DPC.LAN, AIO, AIOCOMX, DPCAGENT, DPCSERV, IPX, TCPIP. Exhibit 2 further shows and describes the use of a DPC ISA card as an interface between the satellite antenna and server and further the use of a modem or alternate connection to directly route data to the Internet. These components and software modules are illustrated in Figure 2 of the '438 application as a preferred embodiment of the software architecture.

11. Exhibit 2 further shows and describes various screen shots illustrating the user interface of the DPCN software that was developed prior to March 4, 1997. These screen shots shown in Exhibit 2 are substantially identical to respective screen shots appearing in Figures 10a-1 of the '438 application demonstrating the user interface of the invention embodied in the '438 application.

12. Source code for implementing the methods recited in the pending claims 41-71 of the '438 application was written by and/or for our company, Helius, Inc., prior to March 4, 1997. I know this source code was written prior to March 4, 1997 at least in part because Helius, Inc. uses a source code control system that dates and labels files within the source code as it was built. This source code is dated prior to March 4, 1997 and corroborates the conception and reduction to practice of the invention prior to March 4, 1997. A copy of first and last pages of this source code are attached as Exhibit 3. Helius, Inc. submitted a version of this source code to the U.S. Patent Office when filing U.S. Patent Application Serial No. 08/943,544.

13. The showing and descriptions in Exhibits 1, 2 and 3 establish that the invention embodied in the claims of the '438 application, as described in claims 41-71, were conceived and reduced to practice in the United States by us prior to March 4, 1997. Accordingly, the Maegawa reference is not prior art against our claims in the '438 application and the rejections based thereon should be withdrawn.

14. We declare further that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statement may jeopardize the validity of the application or any patents issuing thereon.

Date

Date

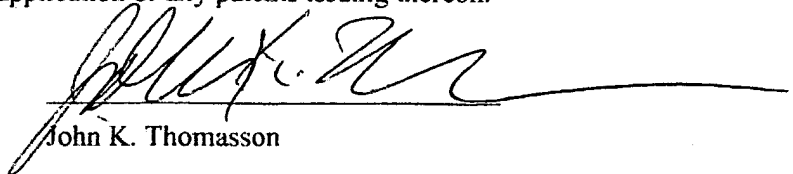
John K. Thomasson

Myron L. Mosbarger

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12. Source code for implementing the methods recited in the pending claims 41-71 of the '438 application was written by and/or for our company, Helius, Inc., prior to March 4, 1997. I know this source code was written prior to March 4, 1997 at least in part because Helius, Inc. uses a source code control system that dates and labels files within the source code as it was built. This source code is dated prior to March 4, 1997 and corroborates the conception and reduction to practice of the invention prior to March 4, 1997. A copy of first and last pages of this source code are attached as Exhibit 3. Helius, Inc. submitted a version of this source code to the U.S. Patent Office when filing U.S. Patent Application Serial No. 08/943,544.
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12 May 06
Date


John K. Thomasson

Date

Myron L. Mosbarger

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**Satellite-based
Internet Access and Data Delivery
to Local Area Networks:
DirecPC Network Edition**

A Market White Paper

by

Helius, Inc.



Turbo Internet

Internet Access is becoming a necessity in business and educational environments. Turbo Internet is the Internet access service of DirecPC Network Edition. It offers dramatic improvements in speed, availability, cost, reliability, and security over previously available alternative Internet access options.

How it works

Turbo Internet is a server based application that provides an Internet gateway for all clients on a Local Area Network (LAN). Turbo Internet takes advantage of the asymmetric nature of Internet data flow. Because outbound data requests for Internet browsing are so much smaller than the returning data replies (1/10th to 1/100th the size), it is possible to reduce costs by using a high-speed receive-only link and common land-lines for the sending link.

To get information off the Internet, requests are generated through a browser on a LAN attached computer. The request travels along the LAN to the server where it is forwarded to the site's chosen Internet Service Provider (typically over a modem and phone line, but also works with ISDN, T-1 etc.). The response is automatically routed to the Network Operations Center where it is beamed up to the satellite and sent back down to the site's dish and into the server. The server then sends it out over the LAN and back to the requesting computer. Please refer to figure 1 below.

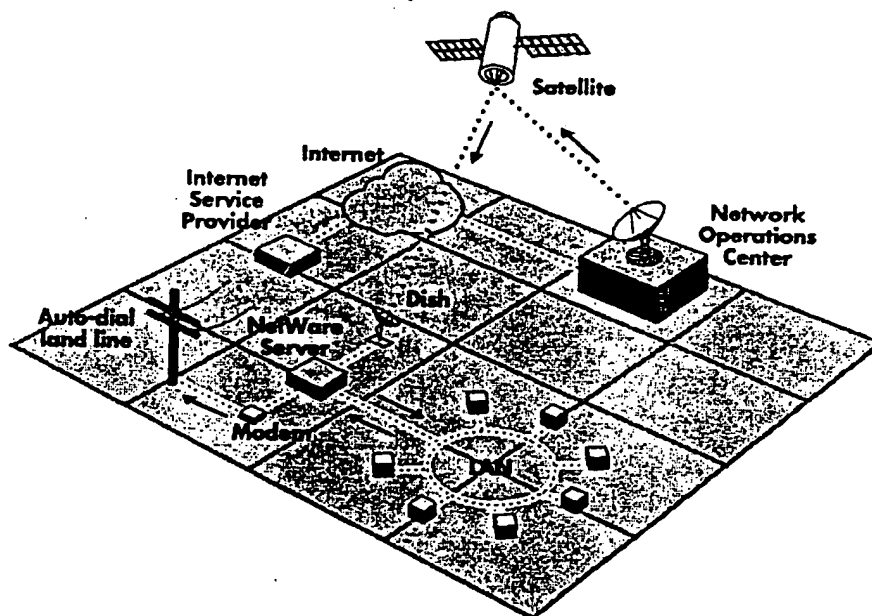


Figure 1: DirecPC Network Edition's Turbo Internet Data Flow

Digital Package Delivery

Digital Package Delivery is the information broadcast service of DirecPC Network Edition. It provides the ability to broadcast digital information from one source to an infinite number of sites at high speeds (3 Mbps), and with complete security.

How it works

To use Digital Package Delivery, an organization provides their data to the Hughes Network Operations Center (NOC). The information resides at the NOC until the time for it to be broadcast or "pushed" to a pre-defined list of sites, or until sites request or "pull" the information when it is needed. The information is DES encrypted to assure security.

Target Markets

Organizations with Remote Offices

Any organization that must regularly distribute large amounts of data to multiple sites will realize enormous cost and time savings from Digital Package Delivery.

Digital Package Delivery eliminates:

- time delays inherent in placing information on physical media like CD-ROMs, paper, or film.
- postage expenses to distribute already dated media.
- establishing multiple one-to-one electronic connections with each remote site.
- losing critical data during shipping.

Instead, Digital Package Delivery gives companies the competitive advantage of promptly sending large amounts of information to any number of sites simultaneously and securely. Just a few uses include:

- Automotive parts supply information
- Company financial reports
- Company marketing materials

Information Distributors

Digital Package Delivery provides benefits to information distributors like software distributors, media printers, information re-broadcasters, and music distributors.

Software distributors gain a powerful way of giving special treatment to site license accounts. Instead of sending multiple CD-ROMs to many sites to provide a software upgrade or fix, Digital Package Delivery allows software distributors to "push" the updates quickly, simultaneously, and automatically anytime an upgrade is warranted.

Print media that is created in one location but printed and distributed in several locations can distributed quickly, securely, and affordably to as many sites as needed.

Information re-broadcasters can aggregate valuable information (Internet content, Financial information, etc.) and rebroadcast to any number of sites and have the information available on the site's network server. Once on the server, the information can be made available to anyone or just to those who have been given rights, if the information is sensitive.

Additionally, music distributors can use Digital Package Delivery to provide the latest songs to music stores instantly, to create interest for an upcoming release.

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DirecPC[™]
for
NetWare[®]

Installation Guide

NetWare Server
Windows Client

Version 1.10

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Copyright © [REDACTED] Helius, Inc.

DirecPC is a registered trademark of Hughes Network Systems, Inc. A unit of Hughes Electronics Corporation. Cisco Internet Junction is a trademark of Cisco Systems. NetWare is a registered trademark of Novell, Inc. Netscape Navigator is a trademark of Netscape Communications Corp.

Overview

DirecPC™ for NetWare® is an exciting and affordable way to provide high speed Internet access and data transfer to multiple users across a Local Area Network (LAN).

In 1994, Hughes Network Services, the world leader in satellite communications, introduced a new low-cost PC based satellite-landline hybrid product: DirecPC™. DirecPC™ brought the benefits of high speed satellite data transfer to stand-alone Personal Computers.

Changing the traditional send/receive paradigm, DirecPC™ separates the sending and receiving links. DirecPC's asymmetrical model of information retrieval allows users to send requests over one link and receive data on another. The need for high cost satellite transmission hardware is eliminated by sending requests over a modem attached landline while data is received over a high speed satellite space link.

DirecPC™ for NetWare® (DPCN) is a multi-user, network implementation of DirecPC™. Most of the features in the stand-alone version of DirecPC™ are available in DPCN.¹ DPCN not only extends the NetWare server platforms to support a DirecPC™ satellite dish connection, it also adds new functionality to NetWare 3.12 and 4.1. The DPCN server becomes a shared satellite device, making it possible for any number of users to receive the Turbo Internet and Package Delivery directly at their desk using a single satellite dish.

¹ Video is unavailable in this release

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DPCN is the only satellite product designed and integrated specifically for the NetWare server. This makes DPCN the perfect solution for delivering low-cost, shared Internet access and for connecting offices, retail establishments, and educational institutions into public and private networks.

Perfect Solution

DirecPC™ for NetWare® is the perfect solution for high speed, affordable Internet access and data transfer. Schools, offices, and businesses with multiple locations can use DPCN for sending and receiving data such as Internet Web sites, electronic mail, documents, software, medical images, training videos, and loan approvals--any item where medium to high bandwidth, low cost, and simplicity are required.

Such sites typically utilize a local area network to share resources. In addition, many of these sites have some type of communication link that provides access to services outside of the local office. Because DPCN combines satellite and modem communication links with NetWare, it is the perfect solution for those who need high speed, low cost information access in a shared environment.

Requirements

NetWare Server

- NetWare 3.12 with minimum of 16 MB RAM
or
- NetWare 4.1 with minimum of 24 MB RAM
- 386/33 processor minimum (Pentium recommended)
- External Hayes compatible modem (2400-28.8) Internal modems are not recommended.
- Network Interface Card
- DirecPC™ ISA adapter card
- Satellite Dish mounted and ready to do fine tune pointing (see *Appendix D: Aiming the Satellite Dish*)

Required NetWare Modules

The server must have the following modules with the specified date or later. If not, the DPCN automated server configuration utility, DPCINST.NLM, will install them for you (see *Configure Server* section).

NetWare 4.1

AIOCOMX.NLM	ver 2.13	Nov 28, 1994
AIO.NLM	ver 6.01a	May 4, 1994
NWSNUT.NLM	ver 4.11	Oct 17, 1994
TCPIP.NLM	ver 3.05a	Jan 23, 1996
NETDB.NLM	ver 3.24g	Feb 23, 1996
ETHERTSM.NLM	ver 2.55	Apr 18, 1995
MATHLIB.NLM or MATHLIBC.NLM		May 27, 1996

NetWare 3.12

AIOCOMX.NLM	ver 2.13	Nov 28, 1994
AIO.NLM	ver 6.01a	May 4, 1994
NWSNUT.NLM	ver 4.11	Oct 17, 1994
TCPIP.NLM	ver 3.00h	Jan 25, 1996
NETDB.NLM	ver 3.24g	Feb 23, 1996

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AFTER311.NLM	ver 4.12	Oct 10, 1995
A3112.NLM	ver 4.12	Oct 10, 1995
ETHERTSM.NLM	ver 2.55	Apr 18, 1995
MATHLIB.NLM or MATHLIBC.NLM		May 27, 1996

At press time, these NetWare modules are available from Novell's Web site (<http://www.novell.com>) or from NetWire (<http://netwire.novell.com>). They can be downloaded free of charge.

DirecPC™ Modules

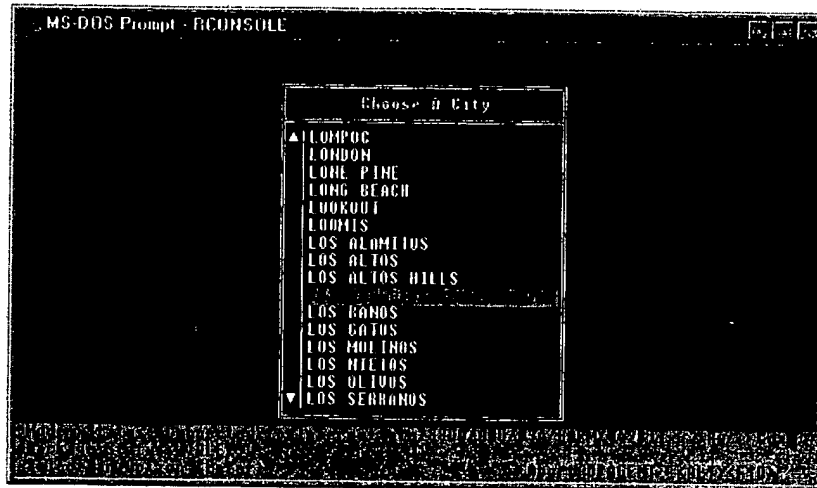
The following modules are required to run DirecPC™ on the server and clients and are part of the DPCN software package.

Server:

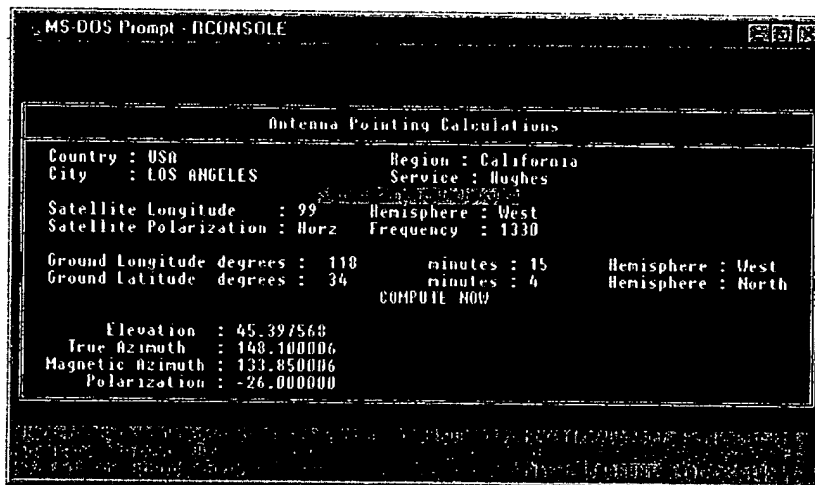
- DPC.LAN
- DPCAGENT.NLM
- Cisco Internet Junction

Client:

- Netscape Navigator
- Cisco Internet Junction

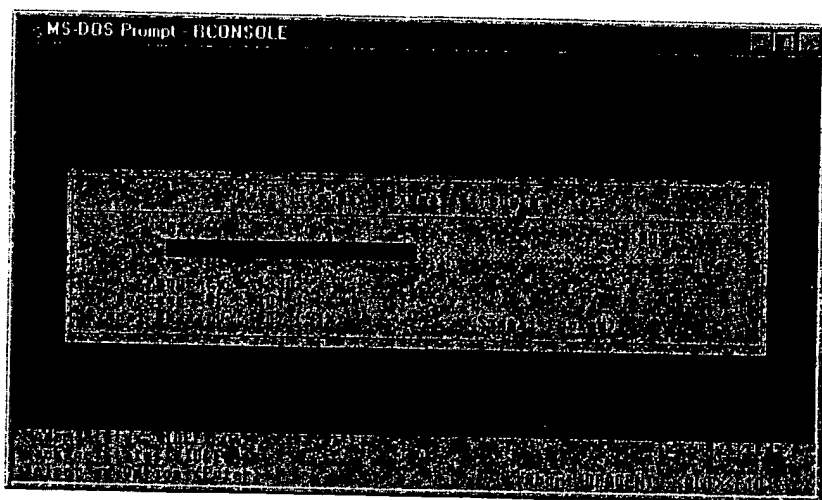


Based on your selections the following screen will give you coordinates for pointing your dish.



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To assist in fine tune pointing, press ESC until you are back to the **Dish Pointing** screen. Select **Signal Strength Meter**, and press ENTER. The screen will appear similar to the following:



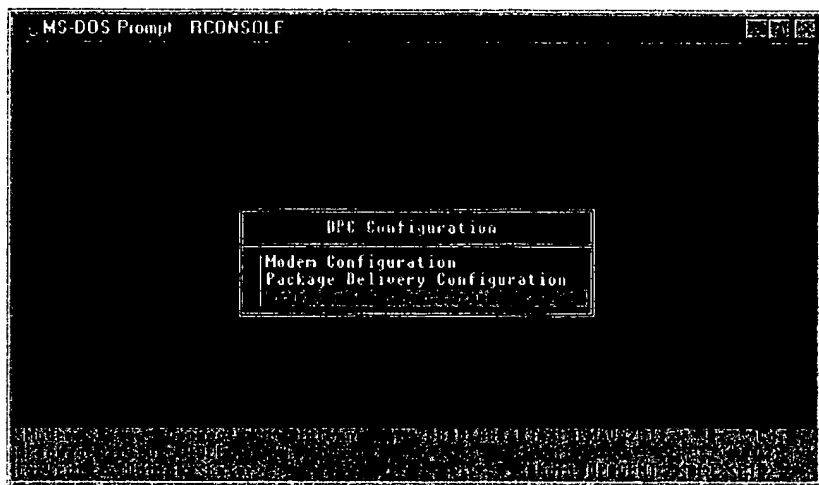
This screen displays the signal strength coming in from the satellite. If the strength is less than 35%, the dish may be out of alignment. If there is no signal at all, the dish may be unaligned or the frequency may be set incorrectly.

Once the antenna is pointed correctly, and all other server modules are loaded, the words "Obtaining Encryption Keys " will display in the **Package Status** field and the modem may dial automatically at any time until the encryption keys have been obtained from the NOC. It may take several minutes to complete this process.

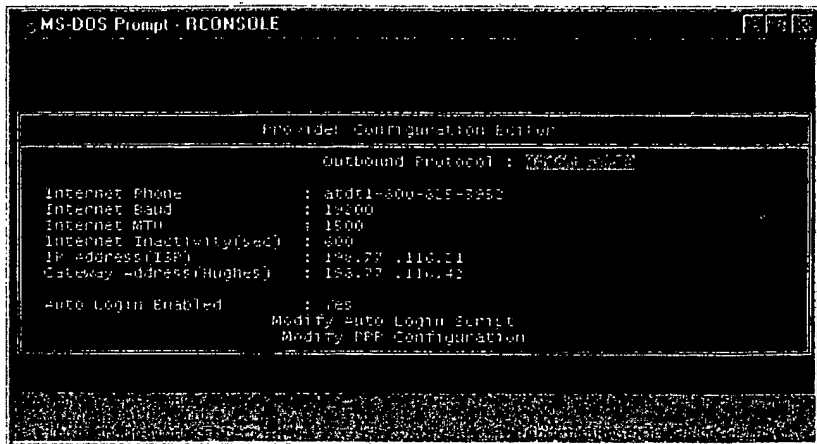
If the encryption keys are not obtained, you will need to call the NOC and request a different Package Telephone Number.

After you have completed pointing your dish, press ESC until you get back to the **DPCAGENT Options Menu**.

Select **DPC Configuration**, then press ENTER. The screen will look similar to the following:



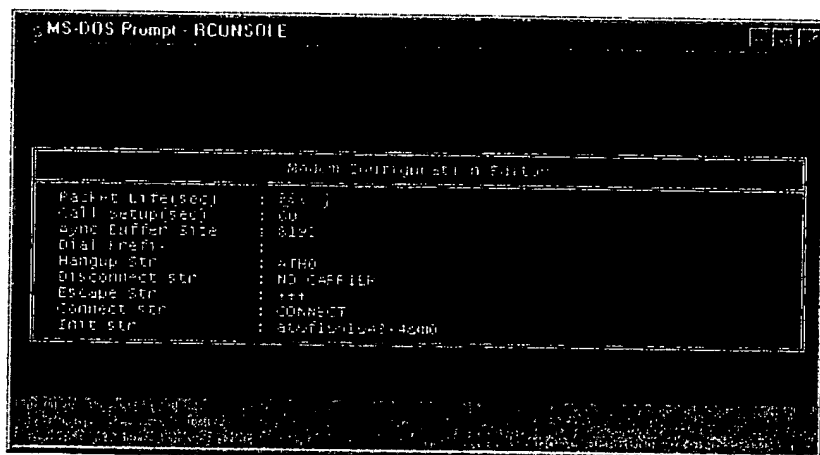
To confirm the installation utility configured your modem to contact your ISP correctly, select **Provider Configuration**, and press ENTER. The screen will look similar to the following:



Verify that the fields are correct.

Note: If your ISP requires you to Login, select **YES** in the **Auto Login Enabled** field and then select **MODIFY AUTO LOGIN SCRIPT**. Enter the information as required by your ISP.

Press **ESC** to save changes and go back to the **DPC Configuration Menu**. Select **Modem Configuration** and press **ENTER**. The screen will look similar to the following:

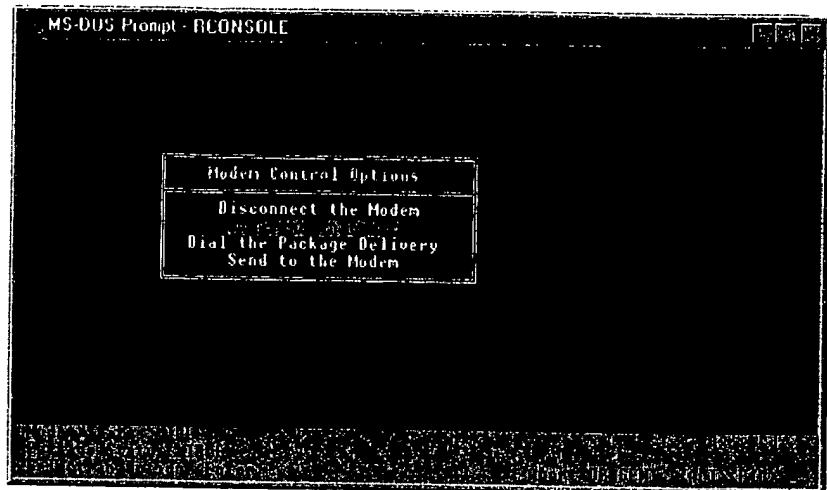


Verify that the fields are correct.

Note: The modem strings are defaults for Hayes compatible modems and work for most systems. Any modifications to these strings should be done with caution.

Press **ESC** to save the changes, then exit the configuration editor and return to the **DPCAGENT Options Menu**.

To test dial the Internet, select **Modem Control** from the **DPCAGENT Options Menu** and press **ENTER**. The screen will look similar to the following:



Select **Dial the Internet** and press ENTER.

You can monitor the dial-in progress by watching the **Modem Status:** field at the bottom left of the **Modem Control Options** screen.

You can also monitor the dial-in progress by toggling the server to the **MODEM SCREEN** which will appear similar to the following:

Appendix C: Module Information

DPCN requires specific revision levels of existing Novell NLMs and four new NLMs.

Software

DPC.LAN

The DPC.LAN is an ODI compliant driver. It is loaded as any other NetWare driver, with the user specifying a port and interrupt. When installing DPCN Turbo Internet, IP must be bound to the server driver using the BIND command.

Unlike typical LAN drivers that send and receive packets, the DPC.LAN driver is a receive-only driver. Make sure you use the correct IP address when you bind IP to the driver.

AIO

When you load AIOCOMX, AIO is auto-loaded.

AIOCOMX

AIOCOMX is used to provide the outbound or request channel. AIOCOMX sets the comm port, the associated interrupt and the baud rate.

DPCAGENT

This NLM is the satellite console monitoring and management utility. It is used to configure IP parameters and the dial communication strings. In addition, it is used to request and cancel Package Explorer downloads and to provide other necessary information and services related to installing and monitoring the satellite link.

DPCSERV

As a multi-user service, Package Explorer for NetWare provides new functionality not necessary in the stand alone version. DPCSERV manages all client requests. For example, if an item is requested by more than one user, DPCSERV sends only one request. When the transmission is complete, DPCSERV notifies all requestors.

IPeXCHNG

IPEXCHNG is CISCO's IP to IPX gateway. While Internet Junction does many things, its primary purpose in this instance is to provide shared or proxy IP services, making it possible for all clients to share one IP address.

IPEXCHNG is a client/server application that communicates with a WINSOC 1.0 client application. IPEXCHNG is loaded on the server with no parameters.

Hardware

DPC ISA

The Hughes DPC ISA card provides the interface between the satellite antenna and the server. It has one connection point for an RG6 cable connection.

Memory

Since the satellite can download files very quickly, you should increase memory allocation to improve your system's performance. We recommend that you set two parameters on the server as follows:

MINIMUM PACKET RECEIVE BUFFERS = 250
MAXIMUM PACKET RECEIVE BUFFERS= 1000

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Modem

We recommend that you use a Hayes compatible external modem. Internal modems do not provide the necessary indicator lights for trouble shooting. You should choose a modem that supports speeds up to 19.2.

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Appendix E: Direct Out Route to Internet

It is possible to configure DirecPC™ for NetWare® to send through media other than a modem connected to a regular telephone line (e.g. ISDN, frame relay, etc.). To do so, please contact your dealer's technical support or Helius, Inc.

HTTP://WWW.Helius.Com/DPCW-Net.

HTML

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```
#!/usr/bin/perl
# Makefile for Netware platform library

# Common include info
include include.mk

# Include files
INCLUDES = $(COMMON_INCLUDES)
INCLUDES += $(INCLUDES)

# Source files
SRC_FILES = $(COMMON_SRC_FILES)
SRC_FILES += $(SRC_FILES)

# Headers
HEADERS = $(COMMON_HEADERS)
HEADERS += $(HEADERS)

# Libraries
LIBRARIES = $(COMMON_LIBRARIES)
LIBRARIES += $(LIBRARIES)

# Object files
OBJ_FILES = $(COMMON_OBJ_FILES)
OBJ_FILES += $(OBJ_FILES)

# Executable files
EXE_FILES = $(COMMON_EXE_FILES)
EXE_FILES += $(EXE_FILES)

# Clean
clean:
    rm -f $(OBJ_FILES)
    rm -f $(EXE_FILES)
```

```
#!/usr/bin/perl
# Makefile for Netware platform library

# Common include info
include include.mk

# Include files
INCLUDES = $(COMMON_INCLUDES)
INCLUDES += $(INCLUDES)

# Source files
SRC_FILES = $(COMMON_SRC_FILES)
SRC_FILES += $(SRC_FILES)

# Headers
HEADERS = $(COMMON_HEADERS)
HEADERS += $(HEADERS)

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LIBRARIES = $(COMMON_LIBRARIES)
LIBRARIES += $(LIBRARIES)

# Object files
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# Executable files
EXE_FILES = $(COMMON_EXE_FILES)
EXE_FILES += $(EXE_FILES)

# Clean
clean:
    rm -f $(OBJ_FILES)
    rm -f $(EXE_FILES)
```